**Does China have Anti-Satellite capabilities?**

Our military analysts know that the Chinese very carefully studied our military tactics during our combat missions in the Middle East. One of the important lessons learned was that our military operations, especially our air operations depend on satellite communications. Thus, modern Chinese military strategies and tactics were designed take advantage of weakness or vulnerabilities of our combat tactics, especially air operations. They know that our troops, especially, those operating in foreign countries depend on satellite signals locating enemy forces and guiding our troops on the ground, in the air, or at sea.

Fact is, we need satellites for GPS guidance for pilots and targeting, communications, guiding precision munitions and photo-reconnaissance. Some pilots have advised that in foreign territory, they cannot function without GPS.

Accordingly, they have developed counter satellite capabilities, using offensive missiles to knock out our space systems.

In 2006 lasers were used to probe our satellites, but the lasers were not high power lasers so our systems were not damaged. We assume that in war, those lasers will likely be high power lasers to damage or destroy our satellites.

In 2007 China used a kinetic kill system to destroy one of their own satellites, and subsequently conducted several other satellite killing missions. They clearly understand the importance of disrupting communications.

Next in 2008, China after completing its first manned spacewalk. One of her astronauts released a microsatellite—weighing 40 kilograms, or nearly 90 pounds—into space. Four hours after release, the satellite came about 27 miles from hitting the International Space Station, according to calculations by the U.S. Strategic Command.

One of the unintended problems created by Chinese satellite destruction is that thousands of pieces of the destroyed satellites have created a huge amount of space debris. This harmless debris is traveling at 18,000 mph, and will damage anything these high speed space junk strikes. They are a danger to space vehicles launch into their vicinity, and sometimes are a hazard to space vehicles returning to earth.

It's a big mess that affects all nations using space vehicles leaving or returning to Earth.

**In a war with China (or Russia), we can expect a robust amount of satellite warfare.**

**Source:**

[***https://nationalinterest.org/blog/reboot/china%E2%80%99s-anti-satellite-capabilities-all-hype-or-recipe-american-defeat-186245***](https://nationalinterest.org/blog/reboot/china%E2%80%99s-anti-satellite-capabilities-all-hype-or-recipe-american-defeat-186245)

====================================================================================

**China’s Anti-Satellite Capabilities: All Hype or a Recipe for American Defeat?**

*Satellites are used for GPS locating, for data transmission—for guiding precision munitions, and for photo-reconnaissance, so if they got taken out, what's the plan B?*

by Caleb Larson

Here's What You Need to Remember: One of China’s more notable anti-satellite test occurred in 2007. A Chinese satellite was struck and destroyed by a kinetic kill vehicle, resulting in a large cloud of debris being thrown into space—more than 3,000 pieces.

China has conducted several anti-satellite strikes. This capability has been compared to hitting a bullet with a bullet—but should the world be worried?

**Space Race**

The United States, and the whole world really, is dependent on space. Satellites are used for GPS locating, for data transmission—for guiding precision munitions, and for photo-reconnaissance.

As one expert wrote, “the military applications of ASAT missiles appear fairly obvious. China would seek to use the ASAT missiles to knock out U.S. satellites in order to degrade its C5ISR [Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance] capabilities, rendering distributed U.S. military and allied assets unable to communicate or share information.”

If enough satellites were taken out in the event of war, troops would have to dust off a compass and map.

**The Infamous Test**

One of China’s more notable anti-satellite test occurred in 2007. A Chinese satellite was struck and destroyed by a kinetic kill vehicle, resulting in a large cloud of debris being thrown into space—more than 3,000 pieces.

This was a huge technological feat for China. The interceptor that was launched was traveling at nearly 18,000 miles per hour—blindingly fast. The target itself was a mere six feet or so across.

Unlike other anti-satellite tests which hit targets from above, essentially pushing them down towards the earth where pieces burn up upon reentry, this Chinese test was conducted form the side, spewing debris across a swath of space. Many of those pieces will stay in orbit for decades, if not centuries, orbiting the earth and posing a threat to whatever may lie in their path.

According to a United States Department of Defense report, the vehicle that carried the kill vehicle was possibly a modified DF-21 ballistic missile, which is capable of carrying nuclear warheads.

**Post-2007**

China has conducted several other anti-satellite tests after their infamous 2007 strike, some of which had the potential to be extremely dangerous.

In 2006, Chinese a Chinese laser (or multiple lasers) lit up a number of American satellites. The satellites sustained no damage, indicating that the laser was not operating at full strength, or that the lasers were for determining range rather than for destruction. It remains unclear what purpose these lasers served.

In 2008, China completed its first manned spacewalk. One of the ambulating astronauts released a microsatellite—weighing 40 kilograms, or nearly 90 pounds—into space. Four hours after release, the satellite came about 27 miles from hitting the International Space Station, according to calculations by the U.S. Strategic Command.

While that doesn’t sound so dangerous, the satellite was traveling about 17,000 miles per hour. Needless to say, the space station would have been pulverized and anyone onboard would have likely died. Worryingly, shortly after launch Chinese state media reported that the micro-satellite had drifted out of its intended orbit.

**Weaponization**

Anti-satellite weapons are dangerous, yes. But, they are no silver bullet. In the event of a conflict where space would become weaponized, striking satellites could knock out services like GPS or communications networks—for a time. Satellites are getting easier and cheaper to launch. They are replaceable.

What is more dangerous about anti-satellite strikes is the debris field that is created after a hit. Small pieces of metal flying through earth’s orbit at 18,000 miles an hour would be very difficult to track, and even harder to predict. The chance of a strike causing damage to whoever shot it can’t be ruled out—and may actually help to prevent anti-satellite strikes from being used.

***Caleb Larson is a Defense Writer with The National Interest. He holds a Master of Public Policy and covers U.S. and Russian security, European defense issues, and German politics and culture***